

AMENDMENTS TO THE CLAIMS

This listing of the claims replaces all prior versions and listings of claims in the application:

Listing of Claims

1. – 28. (canceled)

29. (currently amended) A method of loading a chamber of an automatic injection device with a medicament, the method comprising:

inserting a first seal structure into the chamber at a user selected location within the chamber to divide the chamber into a front compartment and a rear compartment, the chamber having an open front end forming an open end of the front compartment and an open rear end forming an open end of the rear compartment, the chamber having no interior structures, the first seal structure initially sealing the front compartment from the rear compartment and having a moveable sealing plug operative to move within the first seal structure to open a flow path through the first seal structure around the outermost periphery of the sealing plug;

filling the rear compartment of the chamber with a wet medicament portion through the rear end of the chamber, the wet medicament portion contacting interior side walls of the chamber;

sealing the rear end of the chamber with a second seal structure movable toward the front compartment to force the wet medicament portion into the front compartment to mix with a dry medicament portion as the second seal structure moves toward the front compartment;

filling the front compartment of the chamber with the dry medicament portion through the front end of the chamber;

placing a tapered insert in the front end of the chamber, the tapered insert having a constant radially-inward taper extending from the rearward end of the insert to the front end of the insert, the constant radially-inward taper forming a tapered flow pathway through the insert, the insert having a rearward opening that forms a common boundary with the chamber,

the rearward opening having a diameter that equals an inside diameter of the chamber where the rearward opening forms the common boundary; and
sealing the front end of the chamber.

30. (currently amended) The method of claim 29, wherein ~~sealing the front end comprises~~ placing a tapered insert in the front end of the chamber, ~~the tapered insert having a tapered flow pathway therein, the flow pathway being tapered so that the diameter thereof increases as it extends rearwardly~~ comprises abutting an annular flange of the tapered insert against an outside edge of the front end of the chamber.

31. (currently amended) The method of ~~claim 30, further comprising~~ claim 29 wherein sealing the front end comprises attaching a needle assembly to the front end.

32. (original) The method of claim 29, wherein the rear compartment of the chamber is filled with the wet medicament portion before the front compartment of the chamber is filled with the dry medicament portion.

33. (previously presented) The method of claim 29, wherein sealing the rear end comprises installing a plunger.

34. (original) The method of claim 29, wherein the dry medicament portion is a powder.

35. (currently amended) The method of claim 29, wherein the dry medicament portion is a tablet sized ~~and operative~~ to fit through the front end of the chamber.

36. (original) The method of claim 35, wherein the tablet is prepared by lyophilizing a liquid suspension or solution containing suspended or dissolved dry medicament portion in a separate container.

37. (previously presented) The method of claim 29 further comprising after inserting a first seal structure and before filling the rear compartment:
placing the chamber in a low particulate environment.

38. (previously presented) The method of claim 37 further comprising after sealing the rear end of the rear compartment and before filling the front compartment:
removing the chamber from the low particulate environment; and
placing the chamber in an aseptic environment.

39. (currently amended) A method of loading a chamber of an automatic injection device with a medicament, the method comprising:
inserting a needleless seal structure into the chamber to divide the chamber into a front compartment and a rear compartment, the chamber having an open front end forming an open end of the front compartment and an open rear end forming an open end of the rear compartment, the seal structure initially sealing the front compartment from the rear compartment and having a moveable sealing plug operative to move from a sealing position to a by-pass area within the seal structure to open a flow path through the seal structure, the open front end of the chamber having an open mouth configuration;
placing the chamber in a low particulate environment;
filling the rear compartment of the chamber with a wet medicament portion through a rear end of the chamber, the wet medicament contacting interior side walls of the chamber;
sealing the rear end of the chamber;
removing the chamber from the low particulate environment;
placing the chamber in an aseptic environment;
filling the front compartment of the chamber with a dry medicament portion through a front end of the chamber;
placing a tapered insert in the front end of the chamber, the tapered insert having a constant radially-inward taper extending from a large opening at one end of the insert to a small opening at an opposite end of the insert that forms a tapered flow pathway through the insert, the large opening having a diameter that equals an inside diameter of the chamber where

the large opening forms a common boundary with the chamber; and
sealing the front end of the chamber.

40. (currently amended) The method of claim 39, wherein ~~sealing the front end comprises~~ placing a tapered insert in the front end of the chamber, ~~the tapered insert having a tapered flow pathway therein, the flow pathway being tapered so that the diameter thereof increases as it extends rearwardly~~ comprises abutting an annular flange of the tapered insert against an outside edge of the front end of the chamber.

41. (currently amended) The method of claim 39, ~~further comprising wherein~~ sealing the front end comprises attaching a needle assembly to the front end.

42. (previously presented) The method of claim 39, wherein the rear compartment of the chamber is filled with the wet medicament portion before the front compartment of the chamber is filled with the dry medicament portion.

43. (previously presented) The method of claim 39, wherein filling the front compartment of the chamber with a dry medicament comprises:
filling the front compartment with a liquid; and
lyophilizing the liquid to leave only the dry medicament in the chamber.

44. (previously presented) The method of claim 39, wherein sealing the rear end comprises installing a plunger.

45. (currently amended) A method of loading a chamber of an automatic injection device with a medicament, the method comprising:
inserting a seal structure into the chamber at a user selected location within the chamber to divide the chamber into a front compartment and a rear compartment, the seal structure initially sealing the front compartment from the rear compartment and having a slidable sealing plug operative to slide from a sealing position to a by-pass area within the seal structure to open a flow path through the seal structure, the chamber having no interior structures

and an open front end forming an open end of the front compartment and an open rear end forming an open end of the rear compartment, the open front end and the open rear end each having an open mouth configuration;

filling the rear compartment of the chamber with a wet medicament portion through the open mouth configuration at the rear end of the chamber;

sealing the rear end of the chamber;

filling the front compartment of the chamber with a dry medicament portion through the open mouth configuration at the front end of the chamber;

placing a tapered insert in the front end of the chamber, the tapered insert comprising a funnel portion of constant radially-inward taper having a small opening at one end of the insert and a large opening at an opposite end of the insert, the funnel portion forming a tapered flow pathway through the insert, the large opening forming a common boundary with the chamber, the large opening having a diameter that equals an inside diameter of the chamber where the large opening forms the common boundary; and

sealing the front end of the chamber.

46. (currently amended) The method of claim 45, wherein ~~sealing the front end comprises~~ placing a tapered insert in the front end of the chamber, ~~the tapered insert having a tapered flow pathway therein, the flow pathway being tapered so that the diameter thereof increases as it extends rearwardly~~ comprises abutting an annular flange of the tapered insert against an outside edge of the front end of the chamber.

47. (previously presented) The method of claim 45, wherein sealing the rear end comprises installing a plunger.

48. (previously presented) The method of claim 45, wherein the front compartment of the chamber is filled with the dry medicament portion before the rear compartment of the chamber is filled with the wet medicament portion.

49. (previously presented) The method of claim 45, wherein the seal structure has an outer sealing member that forms a seal with the inner wall of the container.

50. (previously presented) The method of claim 45, further comprising attaching a needle assembly to the front end.